DEPARTMENT OF THE ARMY
U.S. Army Corps of Engineers
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Engineer Technical
Letter 1110-3-367

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Engineering and Design
TRACE ORGANIC COMPOUNDS IN POTABLE WATER SUPPLIES

1. Purpose. This letter provides basic information pertaining to the occurrence, detection, and treatment of trace organic compounds that may be found in drinking water and existing and proposed drinking water standards for organic compounds.

2. Applicability. This letter applies to all HQUSACE/OCE elements and field operating activities (FOA) having Army military construction design responsibility.

3. Background. Concern is growing over the discovery of literally hundreds of organic compounds in drinking water. Federal and State surveys to date have identified over 700 organic compounds in potable water supplies; many are toxic and suspected carcinogens, even in minute concentrations. These compounds may be present in finished water as a result of chlorine reacting with naturally occurring organic acids or in surface and groundwater supplies through contamination by pesticides, solvents, or petroleum product constituents. In the latter case, widespread use of a broad array of these organic compounds increases the potential for water supply contamination by runoff, spills, improper disposal practices, or leaks from petroleum storage vessels or pipelines. Some pesticides that are regulated and others being considered for regulation are used at Army installations. As a result, some installations' water supplies contain volatile organic compounds at the alarmingly high level of several thousand micrograms per liter. Trichloroethylene (TCE), a common solvent used both at Army installations and in the civilian sector, is the synthetic organic compound found most often in Federal and State groundwater surveys. (The U. S. Environmental Protection Agency (USEPA) recommended standard for TCE is zero.) Army installations must comply with regulations on levels of organic compounds in drinking water and will be required to install removal equipment if these compounds are detected.

4. Action to be Taken. Information in this letter is intended to supplement TM 5-813-3, Water Supply, Water Treatment, and TM 5-660, Operation of Water Supply and Treatment Facilities at Fixed Army Installations. Enclosure 1 provides design guidance for removing regulated volatile organic compounds from water. More details can be found in Technical Report N-85/11, Strategies for Controlling and Removing Trace Organic Compounds Found in Potable Water Supplies at Fixed Army Installations (U.S. Army Construction Engineering Research Laboratory, 1985).

5. Implementation. This letter will have routine application, as defined in paragraph 6c, ER 1110-345-100.

FOR THE COMMANDER:

Encl

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and Construction